Current Status of the Claims

Claims 1-20 (cancelled)

Claim 21. (withdrawn) Apparatus for selectively interfering with pathological cells survival processes in vitro and in vivo comprising:

means for generating static magnetic (S) fields crossing a working environment;

means for generating electromagnetic extremely low frequency (ELF) fields over said working environment in addition to said S fields;

means for modulating said S fields associated to said means for generating S fields, said means for modulating said S fields setting the intensity of said S fields between 1 and 100 mT as recited in a predetermined function of intensity versus time;

means for modulating said ELF fields associated to said means for generating ELF fields, said means for modulating said ELF fields setting said ELF fields as recited in a predetermined function of amplitude of intensity between 1 and 100 mT and frequency between 1 and 1000 Hz versus time.

Claim 22. (withdrawn) Apparatus for selectively interfering with pathological cells survival processes in vitro and in vivo comprising:

means for generating static magnetic (S) fields crossing a working environment;

means for modulating said S fields associated to said generating means, said means for modulating the S fields setting the intensity of said S fields between 1 and 100 mT as recited in a predetermined function of intensity versus time.

Claim 23. (withdrawn) Apparatus for selectively interfering with pathological cells survival processes in vitro and in vivo, comprising:

means for generating electromagnetic extremely low frequency (ELF) fields over said working environment;

means for modulating said ELF fields associated to said means for generating, said means

for modulating said ELF fields setting said ELF fields as recited in a predetermined function of amplitude of intensity between 1 and 100 mT and frequency between 1 and 1000 Hz versus time.

Claim 24. (withdrawn) Apparatus as recited in Claim 21 wherein said means for modulating said S fields comprises program means that set said intensity following a plurality of predetermined step values I_{S1}, I_{S2}, I_{S3}, I_{Sn} for corresponding time intervals T_1, T_2, T_3, T_n.

Claim 25. (withdrawn) Apparatus as recited in Claim 22 wherein said means for modulating said S fields comprises program means that set said intensity following a plurality of predetermined step values I_{S1}, I_{S2}, I_{S3}, I_{Sn} for corresponding time intervals T_1, T_2, T_3, T_n.

Claim 26. (withdrawn) Apparatus as recited in Claim 21 wherein said means for modulating said ELF fields comprises program means that set said intensity amplitude following a plurality of predetermined step values I_{ELF1}, I_{ELF2}, I_{ELF3}, I_{ELFn} for corresponding time intervals T_1, T_2, T_3, T_n.

Claim 27. (withdrawn) Apparatus as recited in Claim 23 wherein said means for modulating said ELF fields comprises program means that set said intensity amplitude following a plurality of predetermined step values I_{ELF1}, I_{ELF2}, I_{ELF3}, I_{ELFn} for corresponding time intervals T_1, T_2, T_3, T_n.

Claim 28. (withdrawn) Apparatus as recited in Claim 21 wherein said means for modulating said ELF fields comprises program means that set said frequency following a plurality of predetermined step values f_1, f_2, f_3, f_n, for corresponding time intervals T_1, T_2, T_3, T_n, said step values being comprised between 10 and 100 Hz.

Claim 29. (withdrawn) Apparatus as recited in Claim 23 wherein said means for modulating said ELF fields comprises program means that set said frequency following a plurality of predetermined step values f_1, f_2, f_3, f_n, for corresponding time intervals T_1, T_2, T_3, T_n, said step values being comprised between 10 and 100 Hz.

Claim 30. (withdrawn) Apparatus as recited in Claim 21, wherein said means for modulating said S and ELF fields comprises program means that set an S/ELF ratio as recited in a plurality of predetermined step values I_{S1}/I_{ELF1}, I_{S2}/I_{ELF2}, I_{S3}/I_{ELF3}, I_{Sn}/I_{ELFn}, for corresponding time intervals T_1, T_2, T_3, T_n,.

Claim 31. (withdrawn) Apparatus as recited in Claim 30, wherein said program means set said S and ELF fields as recited in an overall intensity between 1 and 30 mT and respectively a ratio S/ELF comprised between 0,1 and 10.

Claim 32. (withdrawn) Apparatus as recited in Claim 30, wherein said program means set said S and ELF fields as recited in an overall intensity between 1 and 10 mT and respectively a ratio S/ELF comprised between 0,5 and 5.

Claim 33. (withdrawn) Apparatus as recited in Claim 24 wherein said program means set said time intervals between 1 and 40 minutes.

Claim 34. (withdrawn) Apparatus as recited in Claim 25 wherein said program means set said time intervals between 1 and 40 minutes.

Claim 35. (withdrawn) Apparatus as recited in Claim 26 wherein said program means set said time intervals between 1 and 40 minutes.

Claim 36. (withdrawn) Apparatus as recited in Claim 27 wherein said program means set said time intervals between 1 and 40 minutes.

Claim 37. (withdrawn) Apparatus as recited in Claim 28 wherein said program means set said time intervals between 1 and 40 minutes.

Claim 38. (withdrawn) Apparatus as recited in Claim 29 wherein said program means set said time intervals between 1 and 40 minutes.

Claim 39. (withdrawn) Apparatus as recited in Claim 30 wherein said program means set said time intervals between 1 and 40 minutes.

Claim 40. (withdrawn) Apparatus as recited in Claim 31 wherein said program means set said time intervals between 1 and 40 minutes.

Claim 41. (withdrawn) Apparatus as recited in Claim 32 wherein said program means set said time intervals between 1 and 40 minutes.

Claim 42. (withdrawn) Apparatus as recited in Claim 1 wherein at least a portion of said working environment is defined by walls permeable to said fields.

Claim 43. (withdrawn) Apparatus as recited in Claim 2 wherein at least a portion of said working environment is defined by walls permeable to said fields.

Claim 44. (withdrawn) Apparatus as recited in Claim 3 wherein at least a portion of said working environment is defined by walls permeable to said fields.

Claim 45. (withdrawn) Apparatus as recited in Claim 1 wherein said means for generating said S and/or ELF fields comprise at least a first and a second coil respectively surrounding at least a portion of said working environment, said means for modulating providing to said coils DC and/or AC current respectively.

Claim 46. (withdrawn) Apparatus as recited in Claim 2 wherein said means for generating said S and/or ELF fields comprise at least a first and a second coil respectively surrounding at least a portion of said working environment, said means for modulating providing to said coils DC and/or AC current respectively.

Claim 47. (withdrawn) Apparatus as recited in Claim 3 wherein said means for generating said S and/or ELF fields comprise at least a first and a second coil respectively surrounding at least a portion of said working environment, said means for modulating providing to said coils DC and/or AC current respectively.

Claim 48. (withdrawn) Apparatus as recited in Claim 1 wherein said means for generating said S and/or ELF fields comprise at least a first and a second coil coaxial to each other, said working environment being placed between said first and a second coil and said means for modulating providing to said coils DC and/or AC current respectively.

Claim 49. (withdrawn) Apparatus as recited in Claim 2 wherein said means for generating said S and/or ELF fields comprise at least a first and a second coil coaxial to each other, said working environment being placed between said first and a second coil and said means for modulating providing to said coils DC and/or AC current respectively.

Claim 50. (withdrawn) Apparatus as recited in Claim 3 wherein said means for generating said S and/or ELF fields comprise at least a first and a second coil coaxial to each other, said

working environment being placed between said first and a second coil and said means for modulating providing to said coils DC and/or AC current respectively.

Claim 51. (withdrawn) Apparatus as recited in Claim 1 wherein means are provided for creating through said working environment a static electric field, or a low frequency variable electric field up to 1000 Hz, having intensity up to 20 kV/m.

Claim 52. (withdrawn) Apparatus as recited in Claim 2 wherein means are provided for creating through said working environment a static electric field, or a low frequency variable electric field up to 1000 Hz, having intensity up to 20 kV/m.

Claim 53. (withdrawn) Apparatus as recited in Claim 3 wherein means are provided for creating through said working environment a static electric field, or a low frequency variable electric field up to 1000 Hz, having intensity up to 20 kV/m.

Claim 54. (withdrawn) A method of using SELF non-thermal fields for selectively interfering with pathological cells' survival, such as in particular cells affected by cancer, viral infections, autoimmune diseases, neurodegenerative disorders and AIDS comprising applying said SELF non-thermal fields having intensity in the range of between 1 and 100 mT.

Claim 55. (withdrawn) A method of using SELF non-thermal fields as recited in Claim 54 wherein said method comprises applying S fields followed by ELF fields.

Claim 56. (withdrawn) A method of using SELF non-thermal fields as recited in Claim 54 wherein said method comprises applying ELF fields followed by S fields.

Claim 57. (withdrawn) A method of using SELF non-thermal fields as recited in Claim 54 wherein said method comprises applying ELF and S fields concurrently.

Claim 58. (withdrawn) A method of using SELF non-thermal fields as recited in Claim 54 wherein said method comprises applying S fields alone.

Claim 59. (withdrawn) A method of using SELF non-thermal fields as recited in Claim 54 wherein said method comprises applying ELF fields alone.

Claim 60. (withdrawn) A method of using SELF non-thermal fields as recited in Claim 54 wherein said ELF fields have a field frequency in the range of between 1 and 1000 Hz.

Claim 61. (currently amended) A method of using Static and Extremely Low Frequency (SELF) non-thermal fields for ~~biotechnological genes modifications~~ modification of a p53 gene, comprising applying said SELF non-thermal fields to said ~~biotechnological genes~~ p53 gene to be modified, where said SELF non-thermal fields have intensity in the range between 1 and 100 mT.

Claim 62. (previously presented) A method of using SELF non-thermal fields as recited in Claim 61 wherein said method comprises applying S fields followed by ELF fields.

Claim 63. (previously presented) A method of using SELF non-thermal fields as recited in Claim 61 wherein said method comprises applying ELF fields followed by S fields.

Claim 64. (previously presented) A method of using SELF non-thermal fields as recited in Claim 61 wherein said method comprises applying ELF and S fields concurrently.

Claim 65. (previously presented) A method of using SELF non-thermal fields as recited in Claim 61 wherein said method comprises applying S fields alone.

Claim 66. (previously presented) A method of using SELF non-thermal fields as recited in Claim 61 wherein said method comprises applying ELF fields alone.

Claim 67. (previously presented) A method of using SELF non-thermal fields as recited in Claim 61 wherein said ELF fields have a field frequency in the range of between 1 and 1000 Hz.

Claim 68. (cancelled)

Claim 69. (withdrawn) A method of using SELF non-thermal fields as recited in Claim 54, further including the step of applying chemical substances in addition to the SELF fields.

Claim 70. (previously presented) A method of using SELF non-thermal fields as recited in Claim 61, further including the step of applying chemical substances in addition to the SELF fields.

Claim 71. (withdrawn) A method of using SELF non-thermal fields as recited in Claim 54, wherein said SELF non-thermal fields are applied in different sequences, and said sequences are set for time intervals T_1, T_2, T_3, T_n, and wherein in said time intervals the intensity of said S and/or ELF fields are set at steady values I_{S1}, I_{S2}, I_{S3}, I_{sn}; I_{ELF1}, I_{ELF2}, I_{ELF3}, I_{ELFn}, I_{S1}/I_{ELF1}, I_{S2}/I_{ELF2}, I_{S3}/I_{ELF3}, I_{Sn}/I_{ELFn}, respectively.

Claim 72. (previously presented) A method of using SELF non-thermal fields as recited in Claim 61, wherein said SELF non-thermal fields are applied in different sequences, and said sequences are set for time intervals T_1, T_2, T_3, T_n, and wherein in said time intervals the intensity of said S and/or ELF fields are set at steady values I_{S1}, I_{S2}, I_{S3}, I_{sn}; I_{ELF1}, I_{ELF2}, I_{ELF3}, I_{ELFn}, I_{S1}/I_{ELF1}, I_{S2}/I_{ELF2}, I_{S3}/I_{ELF3}, I_{Sn}/I_{ELFn}, respectively.

Claim 73. (withdrawn) A method of using SELF non-thermal fields as recited in Claim 54, wherein said S and ELF fields are set at an overall intensity in the range of between 1 and 30 mT with a S/ELF ratio in the range of between 0.1 and 10.

Claim 74. (previously presented) A method of using SELF non-thermal fields as recited in Claim 61, wherein said S and ELF fields are set at an overall intensity in the range of between 1 and 30 mT with a S/ELF ratio in the range of between 0.1 and 10.

Claim 75. (withdrawn) A method of using SELF non-thermal fields as recited in Claim 54, wherein said S and ELF fields are set at an overall intensity in a range between 1 and 10 mT with a S/ELF ratio in the range of between 0.5 and 2.5.

Claim 76. (previously presented) A method of using SELF non-thermal fields as recited in Claim 61, wherein said S and ELF fields are set at an overall intensity in a range between 1 and 10 mT with a S/ELF ratio in the range of between 0.5 and 2.5.